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ABSTRACT

Home Economics 134 was designed to teach the construction and design of clothing on a basic level for students interested in home economics teaching, professional clothes designing, or just self-enrichment. Budget restrictions over a three year period necessitated the reduction of faculty members available to teach the course from three instructors to one. This teacher faced the problem of accommodating a large number of students with a wide range of abilities who wanted to take the class. Finding scheduled lectures to be inadequate as they required extensive repetition of information, she developed a method of instruction based on self-pacing and heavy use of video tape. Meanwhile, a comprehensive indepth evaluation, which stressed student reactions to her was conducted in order to determine course success. The University of Washington Student Ratings Form is appended. (Author/BJG)

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An Evaluation of Doris Katz' Home Economics 134

Helen G. Smith

and

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Abstract

The following pages describe an evaluation of a specific University of Washington course, Home Economics 134, taught by a specific person, Doris Katz. The general purpose of the course is to teach the construction and design of clothing on a basic level for students interested in Home Economics teaching, professional clothes designing, or just self enrichment. The motivation behind doing a more comprehensive and in-depth evaluation than that afforded by the standard end-of-course student ratings alone was the introduction of a new (to this course) method of instruction, based on student self pacing and heavy use of video tapes. Several different methods were used to gain evaluative information about this course. The authors conclude with some reservations that the course can be considered as a success, both as it now exists and in comparison with the same course as previously taught.

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An Evaluation of Doris Kutz' Home Economics 134

Helen G. Smith and Gerald M. Gillmore

Without elaboration, let us posit that all evaluation fundamentally concerns the worth of something. And the worth of something is a value-laden question. Fortunately or unfortunately, values are not uniform across all individuals or groups of individuals. Thus, an important component of an evaluation is the audience to which it is addressed. Our audience is unclear. Certainly, it includes Ms. Katz, who wants to know if she should continue to use this teaching method, and, if so, how to improve upon it. Our audience would also seem to include others who might teach this course in the future, and others who might consider adopting Ms. Katz' methods for different courses. Individuals forced to make administrative decisions in terms of resource allocation could have interest in this report. For example, is money and personnel more effectively expended on production of video-tapes or otherwise? As we move from the decisions facing Ms. Katz through to the decisions facing administrators, we shift from an emphasis on formative evaluation to an emphasis on summative evaluation, but in no case one at the exclusion of the other. In our uncertainty, we have tried to serve all of the above audiences to some extent. Perhaps in so doing we have failed to serve any audience well. We recognize this as a limitation of this endeavor.

The value-laden nature of an evaluation suggests another point concerning our orientation. A common evaluative paradigm is to determine the behavioral (i.e., measurable) objectives of that which is being evaluated, and then to measure, with as much precision as possible, the extent to which those objectives are attained. The evaluation, then, is largely the resulting research report. The context of the present evaluation, we believe, does not readily lend itself to an emphasis upon this approach for two reasons. First, while one could argue that the important goals of education cannot be clearly specified in detailed behavioral outcomes (see Ebel, 1973), the varying skill levels of entering students and the fairly complex behaviors required make complete specification of outcomes a difficult and painstaking task, even if possible. We leave such specification to the future. Secondly, such an evaluation would not seem to be sufficiently responsive to what is actually happening in this class, because many of the goals of the class emphasize the orientation and attitude of students toward the course and toward their products. We will discuss performance, but not in a manner as objective and

tight as one might reasonably hope.

Because of this orientation, much of the data and conclusions which follow are based on informal observation (hopefully much of it unobtrusive) of student action and reaction in the teaching setting, and on informal interviews with randomly selected students. We have included statistical analyses of student ratings data, including comparisons with the results of administration of the instrument to the previous year's classes and grading data. Some, no doubt, will prefer this data to the softer data based on personal impressions and will prefer not to place as much importance on the softer data as we have chosen to do.

As something of a prevue of what's to come, we shall conclude that, as a whole, the new method of teaching this specific course by this specific instructor was a success. But we will attempt to clearly indicate why we made this conclusion so that ideally each reader with his/her values can make his/her own decision. We say ideally because in reality it is not possible to completely present all of the impressions we have obtained in two quarters of work with this course. We also see this as a very basic limitation of our method.

Description of the Course

When budget restrictions over a period of three years necessitated the reduction of the number of faculty members available to teach Home Economics 134 from three instructors to two and then to one, the problem of how to accommodate the number of students wanting to take the class became critical. Under the traditional method of teaching Home Economics used prior to Fall 1973, one teacher was assigned twenty students. Each student was required to spend ten hours per week in class--five hours for lecture and five hours for lab. During Fall, Winter, and Spring of 1972-1973 Ms. Katz and Ms. Sugimura were each assigned one section of Home Ec 134. They did team teach the two sections. All grading was done together so as to better standardize it between sections. Ms. Katz led the teaching of the two sections and Ms. Sugimura assisted Ms. Katz. Two labs were required to handle the number of students who were required to do the lab work there.

A few video tapes (about 8) were used in the lab during 1972-1973. These tapes were used to supplement the lectures. The tapes were not set up so that the students could view them repeatedly. There was no text available though some handouts were used. Only a few visual examples were available in the lab.

At the end of 1972-1973 Ms. Katz decided some definite changes would have

to be made in the course. First, she was the only instructor assigned to teach Home Ec. 134 Fall Quarter 1973 and over 40 students had signed up to take it. Further motivation behind the change to a new method was Ms. Katz's feeling that there were insufficient means available to deal with the wide range of abilities represented in each class. Since students came into the course with varying skill levels not all of the students were ready for the same material at one time. Yet lectures had been presented according to the schedule made for the course. Since students were often not ready Ms. Katz was required to repeat information over and over.

In order to try to alleviate these hurdles to learning and to accommodate the number of students registered for the beginning Fall Quarter 1973 Home Economics 134 was taught in a method different from previous quarters. They had at their disposal: (1) a 125 page course manual which explained all requirements, techniques, and methods; (2) 28 15-minute television tapes, which were located in the Media Center of the Undergraduate Library along with quizzes administered by library staff to be written after each tape; (3) programmed materials which were also located in the Media Center; (4) step-by-step visual materials, which demonstrated each technique required, located in both the clothing laboratory and the Media Center; and (5) assistance from either the instructor or her student aide who were almost always available in the clothing laboratory. One lab was allowed for the course and in that lab many sewing machines and other pieces of sewing equipment were available, e.g., fitting rooms, mirrors, pressing equipment, cutting tables, draping forms.

Students were free to schedule learning sessions when it was convenient for them. The clothing lab was open from 7:30 a.m. to 6 p.m. during week days. The Media Center was open until 11 p.m., including weekends. However, they were encouraged to plan their time and work carefully throughout the quarter, since efficient management of time and materials was one of the goals for the course. The schedule of work was blocked out so that the projects were evenly distributed throughout the quarter. Students were encouraged to meet deadlines to help them better organize their time and so that they would get the necessary feed-back on the progress of their work. The projects, deadlines, techniques to be used, and information as to how grading was to be done was provided in the course manual.

The fundamental structure of the course covered five objectives:

1. Individuality. Students were to become aware of their figure measurements and best features. They should be able to select pattern designs and fabrics that enhance their figures and meet specific requirements for a suitable fit.

2. Construction. Students were to learn the construction techniques, as outlined in the tapes and the manual, and show competency in their application.

3. Coordination. Students were to show understanding of design in their choices of patterns and fabrics. All the garments were to be interchangeable for maximum coordination.

4. Economy. Students were to apply sound values for greatest economy when selecting clothing or fabrics to make into clothing. Economy was also to extend to efficient use of fabric, time, and energy.

5. Function. Students were to produce clothing that was functional, in other words, it should not wrinkle, it should be easy to keep clean, it should be comfortable to wear, and it should be durable.

The grade was directly related to the quality of the projects. Each project was graded with comments. All projects could be turned in a second time for regrading if the student had not achieved the desired criterion. They received grades of PE (Passing Excellent), P (Passing), and NP (Not Passing). Students were encouraged to record their grades on their rating sheet in the manual so that they could be aware of their grade and their progress as they completed the projects.

The criteria for grading each garment have been the same both last year and this year. (See Appendix A for more detail.) In grading Ms. Katz required specific skills be included in the garment in order to get a PE. In order to get an A in the class under the new method students had to get all PE's on each project. This is a change from last year when the students had to get PE's on 6 of the 7 projects required. Ms. Katz raised the number of PE's required to get an A because of the greater emphasis put upon regrading to reach criterion.

There were five required class meetings: (1) during the first week of class they met for an explanation of course procedures and objectives, for a written pretest, and for answers to individual questions concerning the course;

(2) during the third week the class met to evaluate the students' muslin slopers (a basic dress) on the basis of fit; (3) at midterm, the class met to discuss and critique their first completed garment, a skirt; (during this session, time was set aside for a course evaluation done by the Educational Assessment Center in which students were encouraged to give their reactions to the course and recommendations for possible change) (4) at the end of the quarter the students were to bring in all of their completed projects to be critiqued by the other class members--on the basis of fit, workmanship, design, individuality, and coordination; (5) the last session, during finals week, was devoted to evaluation. The students were asked to give a final evaluation of the course, and the instructor would complete her evaluation of the learning of the students.

The same class procedures were followed Fall and Winter Quarter 1973. The video tapes were completed during the first half of Fall Quarter. Feedback was available from the Student Rating evaluations, interviews, and questionnaires given to the students Fall Quarter. This information was used to make some changes in the tapes, the visuals, and the manual for Winter 1974, but the basic nature and process of the course was the same as that of Fall Quarter 1973.

Method

In order to assess student reactions to the nature of the course Student Ratings were given both at mid-quarter and during finals week of both Fall 1973 and Winter 1974. The same form had also been administered to comparable classes last year. Quizzes were taken by students after viewing every tape. An area was provided with questions which solicited additional student comments about the nature of the course. Questions were asked about material which might be unclear or confusing, about organization of the tape, about questions that were unanswered. Students were also asked for further suggestions for improving the course and for comments on the strength and weaknesses of the course. Student interviews were held both quarters by a representative of the Educational Assessment Center.

Along with the interviews, a staff member of the Educational Assessment Center attended the class sessions held by Ms. Katz. She viewed tapes along with the students in the course in the Media Center and read parts of the manual. She also observed while students worked in the lab, viewed the visuals, and

asked for assistance from the instructor. Information was provided by Ms. Katz on grades given to the students so that an evaluation of student learning could be made.

Results

Student Ratings

The items contained on the University of Washington Student Ratings form are found in Table 1. The form as it was presented to students is contained in Appendix B. Items 16 and 17 are clearly not relevant to this course, and no further analyses for these items will be reported.

The Student Ratings form was administered to students in Home Economics Fall, Winter and Spring Quarter of the academic year 1972-73. These students were taught in the more traditional manner as described earlier. The same form was administered twice each for the Fall and Winter Quarter courses of the 1973-74 academic year, once in the middle of the quarter, once at the end. These students were taught in the new manner. The results of these surveys are found in Table 2. The means and standard deviations are based on a five point scale with 1 always being assigned to the most favorable possible response and 5 to the least favorable response. The lone exception to this rule is item 19, whose most favorable response is the middle category--a response of 1 indicates too much student background knowledge was required, a response of 5 indicates too little. Number of respondents is also found in Table 2. The proportion responding is smaller for Winter 1974, because of poorer attendance at the last class session when the ratings forms were administered. Since students were allowed work on their own time, many were allowed to take the class even though they had scheduling conflicts. These conflicts were not apparent until the last required class session when several students had final exams scheduled in other classes.

To analyze the data presented in Table 2, we combined the data from classes taught under the old method, treating them as if they were gathered from one large class. Likewise we combined the data from the end-of-quarter administrations of the two classes taught under the new method. The two resulting sets of means were then treated in two ways. First, using normal approximations, percentile ranks were computed comparing the ratings of these classes with the ratings of 3500 University of Washington classes for which the student ratings form had been administered during the academic year 1972-73. Secondly, the two

Table 1

Items Contained on the University of Washington Student Ratings Form

1. Abstract ideas and theories were clearly interpreted.
2. Takes an active, personal interest in the class.
3. My skills in thinking were increased.
4. Helped broaden my interests.
5. Stressed important material.
6. Made good use of examples and illustrations.
7. Motivated me to do my best.
8. Inspired class confidence in instructor's knowledge of subject.
9. Gave me new viewpoints or appreciations.
10. Clear and understandable in explanations.
11. Teaching sessions gave views and info readings did not contain.
12. Material enthusiastically presented in teaching sessions.
13. Material presented in a well-organized fashion.
14. Helpful to individual students.
15. Integration of material into coherent whole was
16. Readings clear in presentation of concepts.
17. Overall rating of readings.
18. How much was your interest in the subject changed by this course?
19. What level of student background knowledge was assumed in teaching sessions?
20. Were students free to ask questions, disagree, express their ideas, etc.?
21. Instructor has improved my problem-solving methods.
22. Did test questions cover the material emphasized in the readings and teaching sessions?
23. Would you recommend this course by this instructor to majors in this dept.?
24. Would you recommend this course by this instructor to non-majors?

Table 2

Means and Standard Deviations of Student Rating Results

	Old Method						New Method					
	Fall 1972		Win 1973		Spr 1973		Fall 1973				Win 1974	
							Midquarter		Final		Midquarter	Final
Item	N = 29		N = 27		N = 31		N = 45		N = 44		N = 43	N = 27
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
1	2.04	1.08	1.75	.72	1.90	.96	1.87	.85	1.63	.65	1.85	.61	1.88	.60
2	1.38	.72	1.41	.56	1.63	.84	1.33	.60	1.26	.61	1.23	.52	1.41	.62
3	1.62	.96	1.56	.68	1.43	.72	1.48	.58	1.32	.59	1.47	.58	1.52	.63
4	1.59	.93	1.44	.63	1.43	.62	1.50	.66	1.36	.74	1.33	.47	1.67	.67
5	1.52	.97	1.48	.56	1.47	.76	1.32	.52	1.36	.71	1.30	.55	1.67	.67
6	1.45	.89	1.11	.31	1.43	.76	1.17	.43	1.36	.68	1.37	.65	1.44	.63
7	1.66	1.06	1.37	.67	1.87	1.18	1.38	.69	1.39	.75	1.26	.53	1.48	.58
8	1.62	.89	1.22	.42	1.37	.84	1.44	.66	1.19	.44	1.16	.37	1.23	.59
9	1.71	1.06	1.48	.57	1.53	.81	1.57	.49	1.32	.59	1.28	.54	1.52	.63
10	2.00	1.05	1.74	.75	1.97	1.08	2.24	1.00	1.91	1.00	2.07	.70	2.04	.68
11	1.59	.94	1.71	.79	1.76	.91	2.08	.97	1.98	1.01	1.97	.99	2.00	.72
12	1.72	1.11	1.56	.63	1.60	.92	1.45	.66	1.32	.63	1.48	.63	1.48	.70
13	1.48	.77	1.41	.56	1.60	.80	1.67	.84	1.64	.86	1.53	.69	1.56	.63
14	2.07	1.25	1.56	.74	1.90	1.11	1.74	.90	1.42	.87	1.33	.52	1.37	.63
15	1.73	.81	1.46	.50	1.66	.80	1.87	.73	1.49	.62	1.53	.69	1.44	.69
18	1.72	1.08	1.33	.47	1.60	.95	1.76	.78	1.52	.84	1.37	.72	2.00	1.07
19	2.62	.81	2.63	.62	2.67	.70	2.67	.75	2.50	.67	2.69	.64	2.79	.58
20	2.07	1.26	1.59	.99	1.63	1.11	1.67	.89	1.60	.99	1.29	.59	1.56	.70
21	1.96	.98	1.56	.79	1.83	.97	1.95	.92	1.62	.66	1.45	.73	1.68	.73
22	1.73	.86	1.42	.63	2.00	1.07	1.96	1.04	1.76	.86	1.79	.77	2.00	.63
23	1.69	1.15	1.37	.55	1.62	1.00	1.44	.67	1.22	.47	1.12	.32	1.44	.63
24	2.63	1.44	1.81	1.02	1.93	1.24	1.92	1.00	1.77	1.13	1.56	.73	1.88	1.24

sets of means were compared, item by item, by means of a t-test. The results of these analyses are presented in Table 3.

In comparison with all University of Washington instructors who administered the Student Ratings form to their classes, Ms. Katz's Home Economics 134 course was highly rated by students both under the old and new method. For the old method, percentile ranks ranged from 32 for item 20 to 93 for item 3. For the new method, they ranged from 53 for item 20 to 97 for item 7. In a sense, there was not as much room for improvement as might have been the case since the course taught in the old manner was already highly rated, with the exception of item 20.

In comparing means resulting from the two methods, two items showed significant differences, using a two-tailed t-test. Item 11, "Teaching sessions gave views and information readings did not contain," decreased in favorableness from the old method to the new method. The decrease of this item 11 probably is explanable by the change in strategy of the course and is, thus, not very important.

A significant increase in favorableness was shown for item 14, "Helpful to individual students." This result gives evidence that the new teaching method is freeing the instructor's time to be more helpful to individuals.

Although the differences in only two items reached statistical significance, it is probably worthwhile to note that of the 21 directional items (excluding item 19), 14 increased in favorableness, while 7 decreased. The overall picture which seems to emerge is that generally students liked the new course a little better and generally had a better interaction with the instructor. On the other hand, the material was presented in a slightly, though not significantly, less organized and clear manner with the new method.

Information was also obtained from open-ended comments students made in response to the following two questions found on the student ratings forms:

1. What do you believe your instructor has done especially well in this course?
2. What specific things might your instructor do to improve this course?

Comments made most frequently when course was taught in the traditional method were:

Table 3

Analysis of Student Ratings Results

Item	Old Method		New Method		Direction of Change**	t value
	Mean	Percentile Rank	Mean	Percentile Rank		
1	1.90	77	1.90	77	0	.04
2	1.48	75	1.31	84	+	.30
3	1.54	93	1.39	96	+	1.22
4	1.49	90	1.50	90	-	.02
5	1.51	87	1.48	86	+	1.12
6	1.34	92	1.39	89	-	.51
7	1.64	92	1.42	97	+	1.51
8	1.41	84	1.20	91	+	1.92
9	1.58	86	1.39	93	+	1.48
10	1.91	72	1.96	68	-	.33
11	1.69	78	2.02	55	-	2.12*
12	1.63	74	1.40	85	+	1.75
13	1.50	89	1.61	85	-	.85
14	1.85	63	1.40	88	+	2.90*
15	1.62	92	1.47	95	+	1.11
18	1.56	83	1.71	81	-	1.00
19	2.65	--	2.61	--	--	.36
20	1.78	30	1.58	53	+	1.16
21	1.77	92	1.73	93	+	.36
22	1.82	74	1.89	70	-	.07
23	1.56	76	1.30	87	+	1.90
24	2.12	69	1.77	82	+	1.75

*p < .05

**a Plus (+) indicates a more favorable rating for the new method, a Minus (-) indicates a more favorable rating for the old method, a Zero (0) indicates no change.

Question 1:

Encouraged learning and thinking
Well prepared and well organized
Individual help given
Emphasis on perfection
Constant willingness to help students
Stimulated creativity
Use of examples and critiques
Samples were useful

Question 2:

Too much work required
Occasionally intimidated students when they asked questions
Make class size smaller
Clearer directions for making samples
Improve testing methods
Be more tolerant of the untalented ones
Please less emphasis on knits

The Comments made most frequently during 1973 and Winter 1974:

Question 1:

Clear presentation of material through tapes
Encouraged accuracy and got high quality garments
Inspires students to do the best job possible
Helpful to individuals
Active interest in the class
Very patient and understanding
Enthusiasm
Encouraging
Flexible nature of course
Use of video tapes
Allowed students to work at their own pace
Visuals available

Question 2:

Too much work expected
Require fewer projects
Tapes need to cover material sooner (from Fall only)

Manual needs to be clearer in some areas (from Fall only)
Have weekly sessions for questions (from Fall only)
Hold more class sessions
More interaction needed between class members

Students from the traditional method wanted the class size limited. This did not concern the students from the non-traditional class even though their student teacher ratio was much greater as shown in Table 4. These students also felt adequate individual help was given even though the larger number of students did not appear to dampen students' opinion of the enthusiasm of Ms. Katz nor her encouragement. In addition, students mentioned the flexible nature of the course as being valuable and were pleased with the visuals and the use of the video tapes. Four students from the earlier three quarter stated that too much work was required and four students from the later course also wanted fewer projects required. However, there were more projects required under the new method (eight versus seven previously).

Those taking the class in the non-traditional method did express a desire for more student interaction. Since students worked on their own they often did not have much contact with others in the class. Some (5 of the total) did request more class sessions especially for answers to questions. These responses came mostly from the Fall Quarter students. During this quarter the instructor reported not being as available as Winter Quarter probably because of the time required to make the video tapes which was unique to Fall Quarter.

Quiz Questions

After the students viewed two units of the course (1 tape) they were asked to take quizzes available in the Media Center. These quizzes were not graded but were a required part of the course. On each quiz sheet students were also asked to give feedback about their reactions to the course. They were asked about clarity, organization, and presentation of materials. Ms. Katz made written responses to any questions students asked on the written quizzes, and students were able to get their questions answered in detail from the sheets which were kept on file in the lab. Also asked were questions about the number of times students viewed each tape, about whether or not the material being presented was new, and about changes needed in the tapes. From the information given by the students each week, Ms. Katz was able to make improvements in the

Table 4

Student-Teacher Ratio

	Fall 1972	Win 1973	Spr 1973	Fall 1973	Win 1974
Number of students taking course	47	34	41	49	44
Number of faculty teaching course	2	2	2	1	1
Student-teacher ratio	1:23	1:17	1:20	1:49	1:44

manual by using additional handouts. Ms. Katz also redesigned and made three new tapes because of the needs and suggestions of the students Fall Quarter. Comments about the course on these quiz sheets were similar to those made on the Student Ratings questionnaires. The Student Ratings forms were given in addition to the questions on the quizzes because the Student Ratings forms are anonymous, and it was felt that students would be freer to make comments. This did not appear to be the case since positive and constructive comments were made on the forms and the quiz sheets.

Interviews

During both Fall 1973 and Winter 1974 a total of 14 student interviews were held from a randomly selected sample of those taking the class. Students were polled on their observations and criticisms of the course. Data from these interviews were used to make additional changes in the course (e.g., visual materials were added in the library, an oral final was given rather than the planned 2-hour written final).

Many commented on the enthusiasm and inspiration of the instructor. They were pleased that individual help was almost always available in the lab and that they were encouraged to come in any time to get questions answered. Several felt that a lot of work was required but did not want any projects eliminated. Many students Fall Quarter expressed the need to have tapes available sooner, but this was not expressed Winter Quarter since tapes were completed during Fall and all were available at the beginning of Winter Quarter. Favorable comments from students regarding the use of television for teaching were numerous. "Students can go at their own rate." "I can have a front row seat and review the tapes as many times as necessary." "The nature of the course allows for more flexibility in scheduling than other courses. It allows the individual freedom to do as much as one wants as soon as one wants." "The instructor doesn't get sidetracked, which frequently happens in a classroom situation." One student expressed the following viewpoint:

> "At first, I thought that learning from tv would be very impersonal and hard to grasp the ideas. However, I feel a very close one-to-one relationship with the instructor, and there are no distractions in the quiet of the Media Center. It has given me more time to learn, sew and question. I can keep up by viewing the tapes day or night or weekends to fit my own personal schedule and most important of all, I can go as fast or slow as I need to in my projects. I do feel that students do need some personal contact with their teachers, when needed answers to some questions are desired. This has been handled by calling the instructor or stopping by to see her."

Only one student of the 14 interviewed felt that she would rather have had the course taught in the more traditional style of daily lectures and demonstrations in the classroom. The thirteen others expressed their preference for the present class organization. This question was also asked of the entire group on the final course evaluation. During Fall Quarter, of those responding, 16 said they preferred the present model to a more traditional one; 5 said they would prefer a traditional model. During Winter Quarter 1974, 22 of those responding said they preferred the present model, while 1 chose the more traditional model as her preference.

Measures of Performance

A legitimate concern is for the quality of performance, both as it was manifested in classes taught with the new method and in comparison with the previous method. It is somewhat risky to draw conclusions from grades since there is a subjective element involved. However, since the criteria were the same, and since the instructor tried to grade all classes with the same standard, we shall present the data. (See Appendix A for criteria required both in 1972-1973 and 1973-1974 for grading of skirts.)

It does appear from grades that the present method of teaching has not resulted in lower quality work from the students. Under the old method 73% of the total final grades given were A, 13% B, 12% C, 2% D and 1% E. Under the new method 75% of the students taking the class received A's, 18% B's, 7% C's, 0% D's, and 1% E's.

The instructor felt that the quality of product in the class taught under the new method was somewhat higher than previously. Also, in her opinion, students came away better prepared for advanced courses. Observations of the quality of the products will be discussed in the following section.

One aspect of the grades that deserves mention is the fact that 4 students from Fall Quarter and 4 students from Winter Quarter received incompletes. This represents about 9% of the students, which might be somewhat high. However, a higher number than usual would be expected given the self-paced nature of the class. Also worthy of note is the fact that only one person of 90 dropped the course, after the first week, which is considerably below average.

Observations

An area in the Undergraduate Library Media Center was set up so that several students could view the tapes at one time. There were 4 television sets available so that several different tapes could be viewed at any time. Quiz materials were readily available, but more space was needed for writing the quizzes and for taking notes than that available.

Ms. Katz or an aide was available in her office in the lab to give help when needed, usually from 7:30 a.m. to 6 p.m. Many students asked questions about techniques or problems, and Ms. Katz appeared very interested in helping students. If students did not appear to understand, Ms. Katz often rephrased her responses in order to clear up any confusion. She made suggestions for students to try but did not appear to take over. She did not do the work for the student, but suggested various ways a problem might be solved. The student was encouraged to find her own solutions. Many students used the sewing machines available, but it appeared that most students did their work at home. Much use was also made of the visual samples hung along the lab wall. These samples contained examples of all the techniques required to complete the course. The visuals were clear and often answered questions in themselves.

The observer got a very positive feeling about the course from being in the lab. Students were helping each other with fitting and with problems. They did not appear afraid to ask questions of Ms. Katz. They did appear excited about what they were creating and learning. The quality of work being produced was clear, especially in the fashion show given at the end of each quarter at which students modeled their coordinated outfits and were evaluated by their peers. Clothes seemed to fit well. Figure attributes were accented and figure problems were minimized by proper fit and design. Ms. Katz encouraged the students to talk about their garments and the problems and successes they had with them. Students were also able to articulate their fitting problems because they were more aware of their figures and of the fit of their clothing.

Discussion and Conclusions

In general, we believe the course we have evaluated can be considered a success, both as it now exists, and in comparison with the same course taught a year ago with a more traditional method. The reasons for this conclusion are

several. First, course objectives seem to be being met, although since the ultimate goals of the course include values and concepts rather than merely skills, it is difficult to specify the precise extent to which this is true.

The fulfillment of course objectives which involve construction can be reported, because they are directly relevant to the grades students receive. Both the notebook samples and the garments turned in require exacting construction work in order to be worthy of Passing Excellent grades. Since 75% of the students received all PE's in their work (an A in the course) and 18% received B's, this goal must be considered as generally being fulfilled.

The other 4 course objectives--individuality, coordination, economy, and functionality need to be somewhat more individually considered. Ones whole value system must be considered in terms of time, energy, and fabric when considering economy. Students were asked to keep track of their expenditures and were asked about the economy of their outfits at the final fashion show. Some spent as much as $50.00 on the 4 garments but felt the fabric was worth the extra money they spent. Others were able to produce 4 garments for less than $25 and were quite excited about being able to do so.

Students were also evaluated during the final fashion show on the amount of coordination their garments had. It was hoped that all 4 garments could be interchangeable for maximum use. Again the choices of fabrics, patterns, and garments were left up to the individual needs of each student. The best features of each student's figure dictated pattern and fabric choices so that individuality could be maximized.

From the observations made at the fashion show by both the observers and the students, it appears that these course goals were being met by the students. Grades received on the coordinated outfits on fit, coordination, economy, individuality, etc., by students from their peers were quite high. These students who had gone through the course themselves seemed to be knowledgeable judges of basic fit of clothes. They were aware of fabrics appropriate for certain garments; they were aware of the functional nature of certain fabrics and designs.

Secondly, although student ratings showed significant improvement on only one item from the previous year's results, the percentile ranks of the items were high for the previous course and remained high under the new method.

Many items did show increases. The one item with a significant decrease seemed to merely reflect a change in the strategy of teaching the course.

The only item with a relatively low percentile rank was an item tapping the students' freedom to ask questions, disagree, express their ideas, etc. The means for both years for this item was high, but so is the mean of the norm sample. The relatively low rating probably to some extent reflects the skills nature of the course. Thus, while the improvement from the 33rd to the 53rd percentile is welcome, the absolute value of the means (1.78 and 1.58) is not so low as to cause worry.

The additional item added to the Student Ratings form concerning the students' view of the new method also elicited very favorable comments, as did the information gathered on the quizzes. Finally, interviews with students confirmed the view that a large majority preferred the new method.

Thirdly, interviews with the instructor and observation of students at work lead to the conclusion that individual needs are being more adequately met under the new system. Students can work at their own pace. They can get the course material when they are ready for it. If they are having problems they can view the tapes over and over until they grasp the material. They also have access to the course manual and to the visuals so they now have fewer questions to ask. They get clearer demonstrations because they have a front row seat at the tv rather than possibly a back row seat in the lab. The tapes present the material more concisely and they are able to magnify close-ups exactly what the students need to see.

Ms. Katz now has more time to deal with students who really are having problems, because the students have many means available for getting answers to the more common questions. A competitive atmosphere is not as prevalent. Where last year students reported Ms. Katz as not being supportive enough of the less talented, and reported she played favorites at times by using good students as examples to follow, this year those comments are not being made. The students seem more conscious of the criteria for grades, and are less afraid of jeopardizing their grade by helping others.

Although we judge the course as a whole to be a success, there are some weaknesses and needs for improvement. These, however, have mostly to do with improvements in the way material is presented. Specific recommendations can be made for improving the manual and the television tapes. It is probably not

useful to discuss these here. Rather, the more important point to make is that while the course is very good, it can still be improved, and is certainly not a "finished" product, nor will it probably ever be. The use of the tv tapes and the study guide do allow for specific variables to be measured. The tapes can be objectively criticized and refined so that the good things are returned for others to use and changes can be made when needed.

One negative by-product of the method is a lessening of student interaction with each other. This is because students are not all in the lab at the same time, and many do a great deal of work at home. It is not altogether clear that student interaction is an important educational outcome, and this is not a particularly bothersome weakness.

There is no question that under the new method of instruction one instructor can handle more students, thus apparently lessening the total instructional cost. Just how many students can be successfully handled by one instructor, with perhaps help of a graduate assistant, is still an open question. It does appear that the number is great enough to offset the cost of production of the media over not too great a length of time. It seems reasonable to suggest that careful cost-benefit studies be pursued for this course.

It should be noted, however, that setting up a system like the one described does take a great deal of time. This approach requires a knowledgeable team of people. For one thing, each fifteen minute video-tape took from twelve to twenty-four hours to produce. Some of these already have been redone, others will have to be. A course of this type will frequently need a special manual, which takes time to produce, and more time to revise. Thus, an instructor should not be deluded into thinking he/she can revise a course to take advantage of multi media overnight. Furthermore, it is certainly not worthwhile to make these drastic changes for a one-shot course, if one consideres the resources required. Provisions for evaluation and revision must be built into the course.

An important question is, " Would another instructor be able to use these course materials and have the same success?" This question can only be answered definatively if and when other instructors use the materials. However, there is one reservation we have about the course as taught at the University of Washington. Along with the development and improvement of the course, Ms. Katz spent a great deal of time in the lab answering student questions. Thus, while one teacher

can apparently handle more students, the need for assistants, possibly graduate students may be greater than is apparent. Certainly at a large, research oriented University, the typical faculty member cannot function both as the course developer and the major source of assistance to the students. Time demands will not allow it.

To conclude

The whole process of the teaching of this course is impressive. The tv tapes are used in conjunction with a study guide, visual materials, quizzes, and the teacher. Each one serves a purpose in the total system--defining objectives, presenting and clarifying content, reinforcing learning, and evaluating that learning. The role of the teacher has changed so that she becomes a designer of the course; plotting it out, sequencing the material, and helping the students evaluate their learning. Evaluators are able to add to the course thru feedback from interviews, observations, and questionnaires. Students have a chance to be responsible for their own learning and they have a chance to alter the learning experience through their own needs and suggestions for course improvements and modifications.

The fact that the students know this course was experimental did not deter their hard work or their enthusiasm. They themselves had to work hard to make it succeed. In the final analysis the new method of teaching the course has been accepted and preferred over the traditional method.

Reference

Ebel, R. L. "Evaluation and Educational Objectives". Journal of Educational Measurement, 1973, 10, 273-279.

Appendix A

Example of the Grading System

Criteria for Grading a Skirt

1. Must be on grain.
2. Must include construction techniques that are required for the course. Made exactly as seen on the step-by-step visuals and as explained in the course manual, such as:
    (1) size of stitches as specified
    (2) straight and accurate stitching
    (3) even widths of hem and waistband
    (4) matching thread and zipper
    (5) no loose threads
    (6) darts evenly tapered if used
    (7) no shine marks from over-pressing
    (8) No damage done to fabric

In order to receive a PE every requirement would have to be met. (If the garment is off grain it would have to be made completely over again.) If one is not quite as accurate then a passing grade is received. If any of the requirements are not done correctly then a No Pass grade is received.

Appendix B

University of Washington Student Ratings Form

UNIVERSITY OF WASHINGTON
SURVEY OF STUDENT OPINION OF TEACHING

Rev. 9-73

Instructor _____ Course _____ sect. _____ date _____

STUDENT CHARACTERISTICS

Major
- This department
- Social science
- Natural science
- Humanities
- Other (incl pre)

Class
- Freshman
- Sophomore
- Junior
- Senior
- Graduate
- other

Age
- 18 or under
- 19-20
- 21-22
- 23-24
- over 24

Cum GPA
- Below 2.5
- 2.5-2.9
- 3.0-3.4
- Above 3.4

Sex
- Female
- Male

Course
- Required
- Elective

Grade expected
- A
- B
- C
- D
- Fail, E, No Cr.
- Pass, Credit

Please use pencil and mark only in the grids. Make special remarks on back of form. If you use ink, please borrow a pencil when you are finished and mark over the inked grids in pencil. If a question does not apply, ignore it; do not cross out the grids. Comments on the back and statistical summary are not sent to Instructor until grades are filed with Registrar.

STUDENTS MAY RETURN THIS QUESTIONNAIRE UNANSWERED WITHOUT PREJUDICE TO THEM.

	Outstanding	Above Average	Competent	Only fair	Of less value
1. Abstract ideas and theories were clearly interpreted					
2. Takes an active, personal interest in the class					
3. My skills in thinking were increased					
4. Helped broaden my interests					
5. Stressed important material					
6. Made good use of examples and illustrations					
7. Motivated me to do my best					
8. Inspired class confidence in instructor's knowledge of subject					
9. Gave me new viewpoints or appreciations					
10. Clear and understandable in explanations					
11. Teaching sessions gave views and info readings did not contain					
12. Material enthusiastically presented in teaching sessions					
13. Material presented in a well-organized fashion					
14. Helpful to individual students					
15. Integration of material into coherent whole was					
16. Readings clear in presentation of concepts					
17. Overall rating of readings					

18. How much was your interest in the subject changed by this course?	More interested		Less interested
19. What level of student background knowledge was assumed in teaching sessions?	Too much		Too little
20. Were students free to ask questions, disagree, express their ideas, etc.?	Encouraged		Discouraged
21. Instructor has improved my problem-solving methods	Very much		Not at all
22. Did test questions cover the material emphasized in the readings and teaching sessions?	Very well		Very poorly
23. Would you recommend this course by this instructor to majors in this dept?	Very highly		Never
24. Would you recommend this course by this instructor to non-majors?	Very highly		Never
25.		(25.) _____	_____
26. QUESTIONS 25-27 WILL BE ON THE CHALKBOARD IF THE INSTRUCTOR WANTS TO USE THEM.		(26.) _____	_____
27.		(27.) _____	_____